

COPPER REDUCTION IN DISTRICT KEEPS AHEAD AT REMARKABLE SPEED

(Continued from page 1)
declares that, once started, the work will go ahead without interruption.
With the progress of this exploration work interest in the company will increase very materially and with the location of ore the prospects of the organization will be brightened to an unlimited degree.

Of the copper metal situation George S. Walker says:
"One very large group of producers are understood to have sold all the copper they will be able to deliver up to February or March and a considerable amount deliverable at a still later date. Another group of big producers are sold 45 days ahead, and the November output of numerous of the smaller mines has been largely or fully sold."

"There is every prospect that October exports will approximate 50,000,000 pounds, and but for the inability to obtain ship bottoms in which to send copper abroad October exports would have been between 5,000,000 and 10,000,000 pounds greater still."

"The exports of copper in manufactured form, as brass goods, bands for projectiles and other munitions of war are still very heavy. The brass making capacity of the United States has been increased approximately 200% in the past 12 months and it is estimated that by the end of December the brass manufacturers of this country will be turning out between three and four times the amount of product that they were able to a year ago."

"The immense amount of business talk which has been heard on the copper situation apparently arose from an inability to understand the gigantic changes that were going on in the manufacturing and consuming fields. Prior to the outbreak of the war Germany and Austria-Hungary were producing only 6% of the world's copper and manufacturing for home consumption and export 27% of it. When exports of copper to those countries were cut off 21% of the world's total output was added to the amount which manufacturers in this and other countries outside of those great industrial centers must convert into copper and brass products for the world's trade."

"The war also stopped, to a large extent, the financing of new electrical enterprises and thus greatly reduced the amount of copper which could be manufactured and sold by the wire mills. At the same time it created an enormous demand from the allied nations of Europe for brass in various forms to be used in the manufacture of war munitions and for copper bands for projectiles. As a result the then existing manufacturing capacity had to be changed to supply these new requirements and a general extension of plants became an immediate necessity. While these changes were under way a great deal of confusion naturally existed and this confusion led many consumers to over buy and caused thousands of people to believe that conditions were unstable and that production was very greatly exceeding consumption."

"Prior to the war the largest amount of copper ever consumed in the United States in any one month was between 70,000,000 and 80,000,000 pounds, and between 50 and 55% of this was drawn into wire. There is good reason to believe that well over 100,000,000 pounds of copper is being manufactured monthly into brass and other goods in this country now, and it is estimated that only 20% of this is drawn into wire, largely for domestic consumption, and that 40 or 45% of the whole 100,000,000 pounds is being consumed here and 55 to 60% exported."

"There is no doubt that manufacturers of war munitions are generally behind on their contracts, and that they are exerting every effort to increase their output. It will require another 30 to 60 days for them to reach full capacity, and in the meantime the consumption of copper will continue to increase."

"The well sold condition of products at present indicates that consumption is increasing more rapidly than production. If this proves to be true the price of the metal must go higher by the end of the year or soon after. The producing interests have the situation well in hand and none of them have shown any disposition to offer prices down, all knowing that the war demand will be just as large at 18 cents as it would be at 15 cents a pound."

CALIFORNIA MAN ON ARIZONA GOLD FIELDS

(Continued from Page 1)
greatly disappointed if the stock of that company does not sell for \$10 a share within the next six months. By investigation, I have learned that there are fully 35 properties in the Outman district that are either mining at 500 feet or deeper or planned to suffer from indigestion. Before taking Chamberlain's Tablets my husband suffered for several years from indigestion, causing him to have pains in the stomach and distress after eating. Chamberlain's Tablets relieved him of these spells right away," writes Mrs. Thomas Casey, Geneva, N. Y. Obtainable everywhere. (Advertisement.)

Beloved Gen. Joffre's recent visit to London and conference with Kitchenor concerned a more closely co-ordinated military policy among the allies.

carry on development upon such a scale. This speaks volumes for the district. I say, without hesitation, 'Mohave county has the call upon the investing public'. I look for great things here."

One of the properties visited by Mr. Robinson was that of the Arizona Territorial Mines company in the Wallaqui range of mountains, 15 miles east of Kingman, where General Manager W. L. Mackay, formerly manager of the Frances Mohawk mine of the Mohawk mine of Goldfield, Nevada, is apparently developing another bonanza.

Two feet of ore sampling 5000 per ton were recently opened at a depth of 50 feet on the Green Quartz group. The acreage is adjacent to the Black Range and the Nellie on the south and west, and was formerly owned by Louis Arnall. For a number of years Arnall worked the ore with financial

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upward of \$300 per ton. The average value of all the ore extracted from the Tom Reed mine during the 1914-15 fiscal year was \$21.00 per ton. Low grade ore, as commercially recognized, is ore having a precious metal value of \$10.00 per ton or less—generally less. The average value of the Tom Reed ore is therefore more than double that commercially known as "low grade."

Values Widely Distributed.
An especially noteworthy feature in the broad area here over which are carrying a gold content much higher than "low grade" is distributed. On the 200-foot level of the Moss mine, for instance, \$80.00 ore is being mined. The Moss is located 5 miles north of the Tom Reed, and between the two are located a number of properties where the average grade of the ore is considerably higher than "low grade." The Moss mine is being operated by the United States Smelting, Refining & Mining Company, owner of the famous Gold Road mine. The latter was purchased from a French syndicate for \$1,500,000. It has produced ore having a value as high as \$200 per ton and is shipping monthly to mint \$65,000 worth of gold bullion. Adjoining the Gold Road on the south is the estate of the Gold Road Bonanza Co. where \$20.00 ore was recently opened at a depth of 50 feet.

Half a mile north and east of the Gold Road mine is the property of the Gold Ore Mining company where a 6-foot face of \$100 per ton ore is exposed in the west drift on the 500-foot level. Four miles to the north and west of the Gold Ore estate and about 2 miles from the Moss mine, is located the Mossback mine, owned by Burlock Garrison and associates of San Diego. Burlock has mined and shipped a considerable tonnage of \$300 ore. A deal for the transfer of the property is being negotiated at a price running into six figures. Nearby the Moss and Mossback mines are the extensive Gaddis and Perry mineral holdings and the Goffly Goffly group of the United Western company. The ledges on both acreages yield high values at surface. Kenneth Donnellan, one of the pioneer mining men in the Goldfield country, has, with San Francisco associates, taken over the Gaddis and Perry group.

South End Gold Values.
Five miles south of the Tom Reed mine and ten miles south of the Moss and Mossback properties, the Black Range and the Nellie companies are developing extensive acreages. Ore carrying gold in the free and sampling upwards of \$100 per ton has been found at surface and shallow depth on both of these properties. D. C. Wright, president of the Black Range company and formerly a leaser in the Cripple Creek District, expended \$15,000 of his own money in developing the Black Range around before asking for outside financial aid. Recently he refused an offer of \$100,000 for his holdings in the Black Range company.

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success by means of a rude arrastra. Long and McIver, the men who developed the United Eastern mine, a bonanza, now control the property. High values have also been obtained on the Murdock group, formerly owned by Murdock and Porter and now called the Black Hawk, Curry & Alexander, Lazy Boy, Esperanza and other properties located in the extreme south end of the camp.

Other North End Values.
The Hardy mine, located north of and adjoining the Neglected group of the Tom Reed company and the property of the Jerome-Outman company, was taken over a few months ago by Fred W. Crosley, J. O. A. Carper and other former mine operators of the Cripple Creek District. The Buckeye vein on the Hardy group is one of the richest in the camp. In former years this vein produced a considerable tonnage of high grade ore that was freighted by team to Needles and from there shipped to San Bernardino and reduced at a generous profit. A lateral is being driven to tap the Buckeye vein at depth. The Jerome-Outman company is driving its shaft to depth with the object of opening the extension of the Hardy vein system. The new machinery went into commission a short time ago and is proving an excellent factor in hastening mining operations. The Hardy and the Jerome-Outman are located 4 miles north of the Tom Reed and about 7 miles north of the Black Range and the Nellie.

Within a mile of the Jerome-Outman and the Hardy are located the Times group, the Gray Eagle group and the holdings of the Ivanhoe Consolidated Mines company. The Times was recently taken over by W. W. Gray, formerly a successful leaser at Goldfield. Associated with Gray in the venture are B. J. Berceon and other Ohio capitalists. Free gold features the ore on the Times group and at a depth of 50 feet samples better than \$50.00 per ton. The Gray Eagle group, formerly owned by Thornton, Dunbar and associates, has been taken over by the Gold Stone Mining company. W. B. Gordon, a well known Goldfield and Manhattan, Nevada, mining man, is the moving spirit in the enterprise. Its check assay it has been demonstrated that three feet of manganese ore on the Gold Stone property have an average value of \$25.00 per ton. At other points panings of the ore indicate values of at least \$100 per ton. A camp has been established and development work started. The Ivanhoe is showing 40 feet of vein material carrying good values at a depth of 200 feet. The objective of the shaft is a depth of 500 feet where the ore body will again be crossed. From shallow workings on the Ivanhoe ore has been mined and saved for shipment that has an average value of \$45.00 per ton.

Outman's Heart of Gold.
"Outman's heart of gold," as the little radius from the business center of the camp is often called, carries precious metal values which would be considered "high grade" in any camp. The United Eastern mine, for instance, has approximately \$10,000,000 worth of ore in sight on and above the 500-foot level. Values range as high as \$1250 per ton, and hold strong across a width of 20 feet at \$40.00 per ton. The northwest drift on the 500-foot level has sampled an average of \$300 per ton for the last 50 feet. At a depth of 10 feet the shaft on the estate of the Outman Mining and Milling company entered \$80.00 ore. The shaft is now being driven to a depth of 500 feet where a crosscut will be sent out to tap the ore body encountered above. Vein material having a value of \$25.00 per ton was found at a depth of 155 feet in the United Western workings. This ore is to be crosscut at a depth of 500 feet. A station is now being cut at that level. The current week the United Western paid off all indebtedness against its Moreshead Road group of claims and was given a deed thereto by William Berg and Sam Froiley, the former owners.

The Leland-Vivian mine has produced a large tonnage of high grade ore as have likewise the Orion, Pioneer and Ruth mines. The latter lies beyond the boundaries of Outman's heart of gold, but will in due course add materially to the precious metal output of the camp. Ore having a value of \$100 per ton was stopped to surface from a depth of 150 feet on the Orion estate during the period when it was called the "Gold Dust." The property is being aggressively developed under conditions that insure the early output of valuable ore. From surface to a depth of 60 feet on the Pioneer property recently purchased by Allen G. Burris and associates, ore was mined some years ago and shipped to smelter at Kingman that gave returns of \$200 per ton. The Lila vein on the estate of the Arizona-Tom Reed company, adjoining the Pioneer mine, samples as high as \$50.00 per ton at surface and shallow depth.

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